EXAMINER'S AMENDMENT

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 January 2011 has been entered.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Lawrence E. Ashery on 13 June 2011. During that interview, the examiner proposed a number of amendments related to the claimed "all-cell initializing operation" and "selective-cell initializing operation" based on **Figures 4 and 5** of the applicant's disclosure. The examiner additionally presented rationale to show the necessity of adding these proposed amendments to the claims. In particular, the examiner pointed

out a number of distinguishing features related to the waveforms shown in **Figure 4** and the driving scheme shown in **Figure 5** of the applicant's disclosure which had not been claimed. The applicant's representative agreed that the proposed amendments would further prosecution.

3. The application has been amended as follows:

4. **Claim 2** is now CANCELLED.

5. **Claim 5** is now CANCELLED.

6. Amended **Claim 1** now reads:

1. A method of driving a plasma display panel, the plasma display panel including discharge cells, each discharge cell formed at an intersection of a scan electrode and a sustain electrode, and a data electrode, the method comprising :

dividing one field period into a plurality of sub-fields, each sub-field having an initializing period, followed by a writing period, and followed by a sustaining period; and

in the initializing periods of the plurality of sub-fields, selecting between all-cell initializing operation and selective initializing operation based on an average picture level (APL) of signals of an image to be displayed, wherein, the all-cell initializing

operation causes initializing discharge in all the discharge cells for displaying an image, and the selective initializing operation selectively causes initializing discharge only in the discharge cells subjected to sustaining discharge in the preceding sub-field, wherein a sub-field in which the all-cell initializing operation is selected immediately precedes or immediately follows a sub-field in which the selective initializing operation is selected;

wherein, each of the initializing periods for performing the all-cell initializing operation has a former half part, followed by a latter half part, and an abnormal charge erasing part,

in the former half part, application of an ascending ramp waveform voltage with a polarity to the scan electrodes causes a first initializing discharge using the scan electrodes as anodes and the sustain electrodes and data electrodes as cathodes,

in the latter half part, application of a descending ramp waveform voltage which is ranging from a voltage with the same polarity as the voltage applied during the former half part of initialization period [[of]] to a voltage reverse in polarity thereto, to the scan electrodes causes a second initializing discharge using the scan electrodes as the cathodes and the sustain electrodes and data electrodes as the anodes, and

in an abnormal charge erasing part which is provided after the latter half part and before the writing period, applying a positive rectangular waveform voltage to the scan electrodes for a predetermined period of time and then applying a negative rectangular waveform voltage for a shorter period than the predetermined period of time; and

wherein, in the initializing periods for performing the selective initializing operation, only a descending ramp waveform voltage is applied to the scan electrodes,

using the scan electrodes as cathodes and the sustain electrodes and data electrodes as anodes while the sustain electrodes are maintained at a positive voltage, wherein the sustain electrodes are maintained at zero voltage during the former half part and the abnormal charge erasing part, and the sustain electrodes are maintained at the positive voltage during the latter half part.

Allowable Subject Matter

7. **Claims 1, 4, and 9** (now renumbered **Claims 1-3**) are allowed.

8. The following is an examiner's statement of reasons for allowance: none of the references relied upon by the examiner, considered alone or in reasonable combination, teach or fairly suggest the limitations of amended independent **Claim 1**. In particular, none of the references relied upon by the examiner teach or fairly suggest "a method of driving a plasma display panel... the method comprising: dividing one field period into a plurality of sub-fields... and in the initializing periods of the plurality of sub-fields, selecting between all-cell initializing operation and selective initializing operation based on an average picture level (APL) of signals of an image to be displayed, wherein, the all-cell initializing operation causes initializing discharge in all the discharge cells for displaying an image, and the selective initializing operation selectively causes initializing discharge only in the discharge cells subjected to sustaining discharge in the preceding

sub-field, wherein a sub-field in which the all-cell initializing operation is selected immediately precedes or immediately follows a sub-field in which the selective initializing operation is selected; wherein, each of the initializing periods for performing the all-cell initializing operation has a former half part, followed by a latter half part, and an abnormal charge erasing part, in the former half part, application of an ascending ramp waveform voltage with a polarity to the scan electrodes causes a first initializing discharge... in the latter half part, application of a descending ramp waveform voltage which is ranging from a voltage with the same polarity as the voltage applied during the former half part of initialization period to a voltage reverse in polarity thereto, to the scan electrodes..., and in an abnormal charge erasing part which is provided after the latter half part and before the writing period, applying a positive rectangular waveform voltage to the scan electrodes for a predetermined period of time and then applying a negative rectangular waveform voltage for a shorter period than the predetermined period of time; and wherein, in the initializing periods for performing the selective initializing operation, only a descending ramp waveform voltage is applied to the scan electrodes... while the sustain electrodes are maintained at a positive voltage, wherein the sustain electrodes are maintained at zero voltage during the former half part and the abnormal charge erasing part, and the sustain electrodes are maintained at the positive voltage during the latter half part."

As pertaining to the most relevant prior art relied upon by the examiner, Kashio et al. (hereinafter "Kashio" US 7,218,292) discloses (see Fig. 1 and Fig. 11) a method of driving a plasma display panel (see Col. 1, Ln. 24-65) wherein one field period is divided

into a plurality of sub-fields (see Col. 2, Ln. 14-27)... and in the initializing periods of the plurality of sub-fields (see Fig. 11), providing an all-cell initializing operation wherein, each of the initializing periods for performing the all-cell initializing operation (i.e., see the Reset Period and Preliminary Charge-Eliminating Period of Fig. 11) has a former half part (i.e., a set-up part), followed by a latter half part (i.e., a set-down part), and an abnormal charge erasing part (i.e., a Preliminary Charge-Eliminating part), in the former half part (i.e., the set-up part), application of an ascending ramp waveform voltage (Pp+) with a polarity (i.e., a positive polarity) to the scan electrodes (9) causes a first initializing discharge... in the latter half part (i.e., the set-down part), application of a descending ramp waveform voltage (Ppe) which is ranging from a voltage with the same polarity (i.e., the positive polarity) as the voltage applied during the former half part of initialization period (i.e., see (Pp+)) to a voltage reverse in polarity (i.e., the negative polarity) thereto, to the scan electrodes (9)..., and in an abnormal charge erasing part (i.e., see the Preliminary Charge-Eliminating part) which is provided after the latter half part (i.e., the set-down part) and before a writing period (i.e., a Scanning Period), applying a positive rectangular waveform voltage (i.e., see the initial positive rectangular waveform applied during the initial portion of the Preliminary Charge-Eliminating part) to the scan electrodes (9) for a predetermined period of time and then applying a negative rectangular waveform voltage (i.e., see (Phe)) for a shorter period than the predetermined period of time (see Col. 13, Ln. 41-67 through Col. 14, Ln. 1-57).

Nakamura (US 2002 / 0021264) discloses (see Fig. 8, Fig. 9 and Figs. 12A-12D) a method of driving a plasma display panel (see Page 1, Para. [0006]-[0009])... the method comprising: dividing one field period into a plurality of sub-fields (see Page 1 through Page 2, Para. [0014]-[0019])... and in the initializing periods of the plurality of sub-fields (see Figs. 12A-12D), selecting between all-cell initializing operation (i.e., a priming discharge period) and selective initializing operation (i.e., a non-priming discharge period) based on an average picture level (APL) of signals of an image to be displayed, wherein, the all-cell initializing operation (i.e., the priming discharge period) causes initializing discharge in all the discharge cells for displaying an image, and the selective initializing operation (i.e., non-priming discharge period) selectively causes initializing discharge only in the discharge cells subjected to sustaining discharge in the preceding sub-field (see Figs. 12A-12D; see Page 5 through Page 6, Para. [0057]-[0067] and Page 8 through Page 9, Para. [0090]-[0095] and [0098]).

Kim et al. (hereinafter "Kim" US 7,109,951) discloses (see Fig. 1 and Fig. 8) a method of driving a plasma display panel (see Col. 1, Ln. 20-46)... the method comprising: dividing one field period into a plurality of sub-fields (see Fig. 2 and Col. 2, Ln. 6-25)... and in the initializing periods (i.e., see the Initialization and Wall Charge Control periods of Fig. 8) of the plurality of sub-fields, providing and all-cell initializing operation (i.e., again, see the Initialization and Wall Charge Control periods of Fig. 8) that causes initializing discharge in all the discharge cells for displaying an image; wherein, an ascending ramp waveform voltage (Ramp-up) with a polarity is applied to the scan electrodes (Y) to cause a first initializing discharge... a descending ramp

waveform voltage (Ramp-down) is applied to the scan electrodes (Y)..., and in an abnormal charge erasing part (i.e., a Wall Charge Control part) rectangular waveform voltages are applied to the scan electrodes (Y) for a predetermined period of time; and wherein, wherein the sustain electrodes are maintained at zero voltage during the abnormal charge erasing part (see Fig. 8 and Col. 8, Ln. 33-67 through Col. 9, Ln. 1-58).

Kurata et al. (hereinafter "Kurata" US 6,294,875) discloses (see Fig. 1 and Fig. 2) a method of driving a plasma display panel wherein one field period is divided into a plurality of sub-fields and a selection is made between an all-cell initializing operation (i.e., see the Initialization Period of the First Subfield, for example) and a selective initializing operation (i.e., see the Initialization Period of the Second Subfield, for example), wherein, the all-cell initializing operation (i.e., see the Initialization Period of the First Subfield, for example) causes initializing discharge in all the discharge cells for displaying an image, and the selective initializing operation (i.e., see the Initialization Period of the Second Subfield, for example) selectively causes initializing discharge only in the discharge cells subjected to sustaining discharge in the preceding sub-field, wherein, in the initializing periods for performing the selective initializing operation (i.e., see the Initialization Period of the Second Subfield, for example), only a descending ramp waveform voltage is applied to the scan electrodes (SCN; see Col. 8, Ln. 1-67 through Col. 9, Ln. 1-67 and Col. 10, Ln. 1-21).

However, none of the prior art references relied upon by the examiner, considered alone or in reasonable combination, teach or fairly suggest the combination

of limitations recited in independent **Claim 1**. That is, while the combined teachings of Kashio, Nakamura, Kim, and Kurata may suggest the explicit selection of an all-cell initializing operation and a selective cell initializing operation (see the teachings of Kurata and Nakamura), wherein the all-cell initializing operation comprises an abnormal charge erasing period (see the teachings of Kashio), there does not appear to be an explicit and/or implicit suggestion in any of the prior art references relied upon by the examiner to provide the particular waveform and/or voltage control claimed by the applicant. None of the references relied upon by the examiner appear to teach or fairly suggest selection of the all-cell initializing operation and the selective initializing operation as claimed by the applicant based on the average picture level wherein the all-cell initializing operation comprises the claimed former half part, latter half part, and abnormal charge erasing part, the all-cell and selective initializing operations implement the claimed waveforms, and the scan electrodes and the sustain electrodes are simultaneously maintained at the voltage levels claimed. This particular combination of limitations appears to be suggested solely by the applicant's disclosure.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON MANDEVILLE whose telephone number is (571)270-3136. The examiner can normally be reached on Monday through Friday 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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